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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/589,103 | 08/10/2006 | Luca Toncelli | SAIC 22.706 (100788-00120 | 5787 |

26304 7590 11/23/2010

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| EXAMINER | |
|---|---|
| KENNEDY, TIMOTHY J | |
| ART UNIT | PAPER NUMBER |
| 1743 | |
| MAIL DATE | DELIVERY MODE |
| 11/23/2010 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/589,103 | TONCELLI, LUCA | |
| | Examiner | Art Unit | |
| | TIMOTHY KENNEDY | 1743 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *01 September 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *4,5,9,10 and 12-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4, 5, 9, 10, and 12-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. By way of the amendment filed 9/1/2010: claims 1-3, 6-8, and 11 are cancelled, and claims 4, 5, 9, 10, and 12-18 were previously presented.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 4, 9, 10, and 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toncelli (EP 0786325: already of record), in view of Maier et al (U.S. PGPub 2005/0022914: already of record, herein Maier), Brown (U.S. Patent 2,388,824: already of record), Hedstrom (DE 2309183, with Derwent Abstract: already of record), and Takemura (U.S. PGPub 2003/0235939). Regarding claim 9, Toncelli teaches:

5. Mixing stone materials of predetermined particle size with a binder consisting of organic resins to produce a mix (Figure 1 part 26, Abstract, column 5, lines 18-20)

6. Distributing the mix inside a tray mould to form a mix layer (Figure 1 part 30, Abstract, column 5 lines 18-23)

7. Vacuum vibro-compacting the mix layer to obtain a compacted sheet (column 6, lines 7-14)

8. Hardening the binder by heating in an oven in order to obtain the finished products (Figure 1 part F and column 6, lines 15-21)

9. Toncelli does not teach:

10. Using electromagnetic radiofrequency waves having a frequency of less than 300 MHz to dielectrically preheat the compacted sheet to a temperature less than the temperature where catalysis of the binder starts. Toncelli is also silent to using a separate pre heating oven from the curing oven.

11. In the same field of endeavor Maier teaches using 0.5 to 100 MHz radio waves to preheat rubber (paragraph 0020-0021), but is silent as to why a skilled artisan would preheat with radio waves.

12. In the same field of endeavor Brown teaches preheating, using a high frequency electric field, resins before curing to ensure that the entirety of the mass is at a certain temperature so that the proper cure state can be achieved (left column, page 1, lines 20-41). Brown also teaches that the frequency and intensity of the dielectric preheating should be determined by the nature and bulk of the material, as well as allowing enough time for the temperature to approach the curing point (left column, page 2, lines 14-25)

13. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the preheating frequencies as taught by Maier, for

the reason as taught by Brown using the Toncelli process, since the preheating allows for a more even cure.

14. Toncelli, Maier, and Brown are silent to reaching a temperature less than the temperature where catalysis.

15. In the same field of endeavor Hedstrom teaches preheating curable glue to a temperature below its curing temperature so as to remove trapped solvents in the glue. This shortens the total processing time, thus saving money.

16. However Toncelli, Maier, Brown, and Hedstrom are silent as to the temperature used. However, since Brown teaches that the frequency and intensity of the dielectric preheating is based on the material worked upon, one having ordinary skill in the art would find it obvious to be able to determine what temperature is needed to preheat the material; this is further supported by Brown, since Brown teaches preheating to temperature approaching the curing temperature.

17. Finally regarding claim 9, Toncelli, Brown, and Hedstrom do not teach the separate preheating oven and curing oven.

18. In the same field of endeavor of preheating and curing, Takemura teaches pre heating in a separate oven form the curing oven (Figure 1, parts 32 and 36 and paragraphs 0038-0039)

19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the separate oven as taught by Takemura, using the Toncelli, Brown, and Hedstrom method, since a separate preheating oven allows for removal of certain components that could interfere with the curing.

20. Regarding claims 4 and 10:

21. See remarks regarding claim 9 with regards to the preheating temperature.

22. Regarding claim 12:

23. See remarks regarding claim 9.

24. Regarding claim 13:

25. See remarks regarding claim 9.

26. Regarding claim 14, Brown for the previously stated reasons teach:

27. Step (c) is performed using means to generate electromagnetic waves having a frequency of between 25 and 35 MHz in the intermediate station.

28. See remarks regarding the Brown reference with regards to claim 9.

29. Regarding claims 15 and 16:

30. See remarks regarding claim 9 and the teachings of Toncelli (vacuum vibro-compaction) and Brown. The length of time that steps c and c are performed is obvious to try since there are only three possible combinations. One: compaction is longer than pre heating, two: compaction and preheating are equal, and three: compaction is shorter than preheating. It has been shown that a person of ordinary skill has good reason to pursue the known options in their art. If this lead to an anticipated success, it is likely that it was not due to innovation but of ordinary skill and common sense. *KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385, 1397 (2007).* Furthermore, the amount of time that steps c and d are performed are variables well within the abilities of a skilled artisan. The time it takes to compact a material is inherently a result effective,

since it is dependent on the material properties, and the desired final density. The preheating has already been discussed above, see remarks regarding claim 9.

31. Regarding claim 17 and 18:

32. The continuous production for producing multiple sheets is shown by the teachings of Toncelli, the additional process added on by the above secondary references would not alter the continuous nature of the Toncelli process.

33. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toncelli, Brown, Hedstrom, and Takemura as applied to claim 9 above, and further in view of Toncelli (WO 03/089189, herein after referred to as Toncelli WO). Regarding claim 5, Toncelli and Brown do not teach:

34. A mix which contains granulates of the expanded type.

35. In the same field of endeavor Toncelli WO teaches the use of expanded clay in the mixture (page 6, lines 16-21).

36. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the expanded granulates as taught by Toncelli WO, using the previous process of, Brown, Hedstrom, and Takemura since doing so would allow for good vibration damping capacity and lower the weight of the final product (page 6, lines 20-21)

***Response to Arguments***

37. Applicant's arguments filed 9/1/2010 have been fully considered but they are not persuasive.

38. Applicant argues that Maier, Hedstrom, and Takemura are non-analogous art.

39. In response to applicant's argument of is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

40. In this case, Maier, Hedstrom, and Takemura are in the same field of endeavor because they are solving the same desired problem.

41. Maier is directed to curing mineral filled polymers with high frequency energy. This is directly related to the field of endeavor of both the main reference Toncelli, and that of the instant application.

42. Hedstrom is directed to preheating adhesive mixtures below their curing points to remove undesired solvent. This provides motivation as to why one would want to preheat an adhesive mixture. Preheating to below the curing point is a problem that the instant application is concerned with, and Hedstrom is providing motivation as to why a skilled artisan would want to preheat an adhesive mixture (i.e. the resin matrix of the instant application) below the curing point.

43. Takemura is directed to using a different oven for preheating and curing. This is the same problem the Applicant is trying to solve. Takemura teaches that using a preheating oven separate from a curing oven removes moisture from the product being heated before it reaches the curing oven, thus providing proper motivation for a skilled artisan.

44. Therefore Maier, Hedstrom, and Takemura are analogous art.

45. Regarding the arguments against the Brown references:

46. Applicant argues that since Brown teaches two means to preheat the material that it is an improper reference. This is incorrect, since the claims do not state that any other preheating means cannot be used. Furthermore it is irrelevant if Brown teaches that the very outside of the material is heated with steam plates, since Brown provides the desired teachings and motivation for a skilled artisan to use electromagnetic waves to preheat a curable material.

***Conclusion***

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY KENNEDY whose telephone number is (571) 270-7068. The examiner can normally be reached on Monday through Friday 9:00am to 6:00pm (Personal fax number 571-270-8068).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Del Sole can be reached on (571) 272-1130. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

tjk

/Joseph S. Del Sole/
Supervisory Patent Examiner, Art Unit 1743